

SEQUENCE LISTING

<110> Wang, Kai
 Smith, Ryan
 Fajardo, Mark
 Moss, Patrick

<120> A NOVEL MATRIX METALLOPROTEINASE (MMP-25)
 EXPRESSED IN SKIN CELLS

<130> 240083.509

<140> US

<141> 2001-03-06

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 833

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(810)

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tat	gga	ggt	ctg	cct	aag	gaa	cct	gct	aag	cca	aag	gaa	ccc	act	ata	96
Tyr	Gly	Gly	Leu	Pro	Lys	Glu	Pro	Ala	Lys	Pro	Lys	Glu	Pro	Thr	Ile	
			20					25					30			

ccc	cat	gcc	tgt	gac	cct	gac	ttg	act	ttt	gac	gct	atc	aca	act	ttc	144
Pro	His	Ala	Cys	Asp	Pro	Asp	Leu	Thr	Phe	Asp	Ala	Ile	Thr	Thr	Phe	
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cgc	aga	gaa	gta	atg	ttc	ttt	aaa	ggc	agg	cac	cta	tgg	agg	atc	tat	192
Arg	Arg	Glu	Val	Met	Phe	Phe	Lys	Gly	Arg	His	Leu	Trp	Arg	Ile	Tyr	
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tat	gat	atc	acg	gat	gtt	gag	ttt	gaa	tta	att	gct	tca	ttc	tgg	cca	240
Tyr	Asp	Ile	Thr	Asp	Val	Glu	Phe	Glu	Leu	Ile	Ala	Ser	Phe	Trp	Pro	
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tct	ctg	cca	gct	gat	ctg	caa	gct	gca	tac	gag	aac	ccc	aga	gat	aag	288
Ser	Leu	Pro	Ala	Asp	Leu	Gln	Ala	Ala	Tyr	Glu	Asn	Pro	Arg	Asp	Lys	
			85					90							95	

att ctg gtt ttt aaa gat gaa aac ttc tgg atg atc aga gga tat gct 336
 Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg Gly Tyr Ala
 100 105 110

gtc ttg cca gat tat ccc aaa tcc atc cat aca tta ggt ttt cca gga 384
 Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly Phe Pro Gly
 115 120 125

cgt gtg aag aaa ata gat gca gcc gtc tgt gat aag acc aca aga aaa 432
 Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr Thr Arg Lys
 130 135 140

acc tac ttc ttt gtg ggc att tgg tgc tgg agg ttt gat gaa atg acc 480
 Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp Glu Met Thr
 145 150 155 160

caa acc atg gac aaa ggg ttc ccg cag aga gtg gta aaa cac ttt cct 528
 Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys His Phe Pro
 165 170 175

gga atc agt atc cgt gtt gat gct gct ttc cag tac aaa gga ttc ttc 576
 Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys Gly Phe Phe
 180 185 190

ttt ttc agc cgt gga tca acg caa ttt gaa tac gac att aag aca aag 624
 Phe Phe Ser Arg Gly Ser Thr Gln Phe Glu Tyr Asp Ile Lys Thr Lys
 195 200 205

aat att acc cga atc atg aga act aat act tgg ttt caa tgc aaa gaa 672
 Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln Cys Lys Glu
 210 215 220

cca aag aac tcc tca ttt ggt ttt gat atc aac aag gaa aaa gca cat 720
 Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu Lys Ala His
 225 230 235 240

tca gga ggc ata aag ata ttg tat cat aag agt tta agc ttg ttt att 768
 Ser Gly Gly Ile Lys Ile Leu Tyr His Lys Ser Leu Ser Leu Phe Ile
 245 250 255

ttt ggt att gtt cat ttg ctg aaa aac act tct att tat caa 810
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taaattcata gacctaaaat aaa 833

<210> 2

<211> 269

<212> PRT

<213> Homo sapiens

<400> 2

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	20	25	30
His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile Thr Thr Phe Arg			
	35	40	45
Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp Arg Ile Tyr Tyr			
	50	55	60
Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser Phe Trp Pro Ser			
65	70	75	80
Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro Arg Asp Lys Ile			
	85	90	95
Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg Gly Tyr Ala Val			
	100	105	110
Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly Phe Pro Gly Arg			
	115	120	125
Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr Thr Arg Lys Thr			
	130	135	140
Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp Glu Met Thr Gln			
145	150	155	160
Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys His Phe Pro Gly			
	165	170	175
Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys Gly Phe Phe Phe			
	180	185	190
Phe Ser Arg Gly Ser Thr Gln Phe Glu Tyr Asp Ile Lys Thr Lys Asn			
	195	200	205
Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln Cys Lys Glu Pro			
	210	215	220
Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu Lys Ala His Ser			
225	230	235	240
Gly Gly Ile Lys Ile Leu Tyr His Lys Ser Leu Ser Leu Phe Ile Phe			
	245	250	255
Gly Ile Val His Leu Leu Lys Asn Thr Ser Ile Tyr Gln			
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<210> 3
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 <213> Homo sapien

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tgaaatagaa gggaaatcatc ttgttcaaag caagaatagg agtctcatag atgacaaaat	240
tcgggaaatg caagcatttt ttggattgac agtgactgga agactggact caaacaccct	300
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cccactttct caggatgata tcaatggaat ccagtcacatc tatggagggtc tgcctaagga	720
acctgctaag ccaaaggaac ccactatacc ccatgcctgt gaccctgact tgacttttga	780
cgctatcaca actttccgca gagaagtaat gttcttttaa ggcaggcacc tatggaggat	840

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cgacattaag acaaagaata ttacccgaat catgagaact aatacttggg ttcaatgcaa    1320
agaaccaaag aactcctcat ttggttttga tatcaacaag gaaaaagcac attcaggagg    1380
cataaagata ttgtatcata agagtttaag cttgtttatt tttggtattg ttcatttgct    1440
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<210> 4

<211> 466

<212> PRT

<213> Homo sapien

<400> 4

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Ala Phe Pro Leu Val Arg Met Met Glu Asn Glu Glu Asn Val Gln Leu
      20             25             30
Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn
      35             40             45
His Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg
      50             55             60
Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Arg Leu Asp Ser
      65             70             75             80
Asn Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val
      85             90             95
Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr
      100            105            110
Tyr Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp
      115            120            125
Glu Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu
      130            135            140
Lys Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe
      145            150            155            160
Arg Thr Arg Gly Phe Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly
      165            170            175
His Ala Leu Gly Leu Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe
      180            185            190
Pro Asn Tyr Val Ser Leu Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp
      195            200            205
Asp Ile Asn Gly Ile Gln Ser Ile Tyr Gly Gly Leu Pro Lys Glu Pro
      210            215            220
Lys Pro Lys Glu Pro Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr
      225            230            235            240
Phe Asp Ala Ile Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly
      245            250            255
Arg His Leu Trp Arg Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu
      260            265            270
Leu Ile Ala Ser Phe Trp Pro Ser Leu Pro Asp Leu Gln Ala Ala Tyr
      275            280            285

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Glu Asn Pro Arg Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp
 290 295 300
 Met Ile Arg Gly Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His
 305 310 315 320
 Thr Leu Gly Phe Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys
 325 330 335
 Asp Lys Thr Thr Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp
 340 345 350
 Arg Phe Asp Glu Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg
 355 360 365
 Val Val Lys His Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe
 370 375 380
 Gln Tyr Lys Gly Phe Phe Phe Arg Gly Ser Thr Gln Phe Glu Tyr
 385 390 395 400
 Asp Ile Lys Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp
 405 410 415
 Phe Gln Cys Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn
 420 425 430
 Lys Glu Lys Ala His Ser Gly Gly Ile Lys Ile Leu Tyr His Lys Ser
 435 440 445
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 450 455 460
 Tyr Gln
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<210> 5
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 <212> DNA
 <213> Homo sapien

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 tcaaccagtt ctactctctt gaaatagaag ggaatcatct tgttcaaagc aagaatagga 180
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 tgtggagcaa agtcactcca ctaaaattca ccaagatttc aaaggggatt gcagacatca 480
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 ggagggttga tgaaatgacc caaacatgg acaaagggtt cccgcagaga gtggtaaac 1260
 actttcctgg aatcagtatc cgtgttgatg ctgctttcca gtacaaagga ttcttctttt 1320
 tcagccgtgg atcaacgcaa tttgaatacg acattaagac aaagaatatt acccgatca 1380

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tgtttatttt tggatttggt catttgctga aaaacacttc tatttatcaa taaattcata 1560
gacctaaaat aaacctcaac aggtctttta atataaattc tgcttcaaaa tagaataaaa 1620
ccattcttta acaacaagtt gctggctcta gttctaaata tccaaattca atggccattt 1680
tgagctgcct gattctttta ataggaagtt attatgtaga aacaaaaatc tctgactgta 1740
ctttaagcct atttcatgct ttgtggactt ggagaagaca tgtcttataa ctgaatactg 1800
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<210> 6

<211> 513

<212> PRT

<213> Homo sapien

<400> 6

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      20             25             30
Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn
      35             40             45
His Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg
      50             55             60
Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Arg Leu Asp Ser
      65             70             75             80
Asn Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val
      85             90             95
Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr
      100            105            110
Tyr Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp
      115            120            125
Glu Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu
      130            135            140
Lys Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe
      145            150            155            160
Arg Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu
      165            170            175
Gly Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp
      180            185            190
Thr His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe
      195            200            205
Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu
      210            215            220
Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser
      225            230            235            240
Leu Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile
      245            250            255
Gln Ser Ile Tyr Gly Gly Leu Pro Lys Glu Pro Ala Lys Pro Lys Glu
      260            265            270
Pro Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile
      275            280            285
Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp
      290            295            300
Arg Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser

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305          310          315          320
Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro
          325          330          335
Arg Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg
          340          345          350
Gly Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly
          355          360          365
Phe Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr
          370          375          380
Thr Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp
385          390          395          400
Glu Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys
          405          410          415
His Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys
          420          425          430
Gly Phe Phe Phe Phe Ser Arg Gly Ser Thr Gln Phe Glu Tyr Asp Ile
          435          440          445
Lys Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln
          450          455          460
Cys Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu
465          470          475          480
Lys Ala His Ser Gly Gly Ile Lys Ile Leu Tyr His Lys Ser Leu Ser
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Leu Phe Ile Phe Gly Ile Val His Leu Leu Lys Asn Thr Ser Ile Tyr
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Gln

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<210> 7
<211> 27
<212> PRT
<213> Homo sapien

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<220>
<221> VARIANT
<222> (1)...(27)
<223> Xaa = any amino acid

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<400> 7
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          20          25

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<210> 8
<211> 37
<212> PRT
<213> Homo sapiens

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<220>
<221> VARIANT
<222> (1)...(37)
<223> Xaa = any amino acid

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<400> 8

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 Ala Phe Xaa Pro Gly Xaa Gly Xaa Gly Gly Asp Xaa His Pro Asp Xaa
 20 25 30
 Asp Glu Xaa Trp Thr
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<210> 9

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 9

tgatatcata atagatcctc cataggtgcc

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<210> 10

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 10

ttccttaggc agacctccat agatggactg g

31

<210> 11

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 11

cctaaggaac ctgctaagcc aaaggaa

27

<210> 12

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 12

ccgcagagaa gtaatgttct ttaaa

25

<210> 13

<211> 25

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 13
 ccgcagagaa gtaatgttct ttaaa

25

<210> 14
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 14
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<210> 15
 <211> 411
 <212> DNA
 <213> Homo sapien

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 acttttgacg ctatcacaac tttccgcaga gaagtaatgt tcttttaaagg caggcaccta 180
 tggaggatct attatgatat cacggatgtt gagtttgaat taattgcttc attctggcca 240
 tctctgccag ctgatctgca agctgcatac gagaaccca gagataagat tctgggtttt 300
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 atccatacat taggttttcc aggacgtgtg aagaaaatag atgcagccgt c 411

<210> 16
 <211> 382
 <212> DNA
 <213> Homo sapiens

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 aatgtgcttt ttccttggtg atatcaaac caaatgagga gttcttttgg tctttgcatt 180
 gaaaccaagt attagttctc atgattcggg taatattctt tgtcttaatg tcgtattcaa 240
 attgogttga tccacggctg aaaaagaaga atcctttgta ctggaaagca gcatcaacac 300
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<210> 17
 <211> 12
 <212> PRT
 <213> Homo sapien

<220>

<221> VARIANT
 <222> (3)...(3)
 <223> Xaa = any amino acid

<221> VARIANT
 <222> (6)...(7)
 <223> Xaa = any amino acid

<221> VARIANT
 <222> (9)...(10)
 <223> Xaa = any amino acid

<221> VARIANT
 <222> (12)...(12)
 <223> Xaa = Serine or Threonine

<400> 17
 His Glu Xaa Phe His Xaa Xaa Gly Xaa Xaa His Xaa
 1 5 10

<210> 18
 <211> 7
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (5)...(5)
 <223> Xaa = any amino acid

<400> 18
 Pro Arg Cys Gly Xaa Pro Asp
 1 5

<210> 19
 <211> 469
 <212> PRT
 <213> Homo sapiens

<400> 19
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 Ser His Ser Phe Pro Ala Thr Leu Glu Thr Gln Glu Gln Asp Val Asp
 20 25 30
 Leu Val Gln Lys Tyr Leu Glu Lys Tyr Tyr Asn Leu Lys Asn Asp Gly
 35 40 45
 Arg Gln Val Glu Lys Arg Arg Asn Ser Gly Pro Val Val Glu Lys Leu
 50 55 60
 Lys Gln Met Gln Glu Phe Phe Gly Leu Lys Val Thr Gly Lys Pro Asp
 65 70 75 80
 Ala Glu Thr Leu Lys Val Met Lys Gln Pro Arg Cys Gly Val Pro Asp
 85 90 95
 Val Ala Gln Phe Val Leu Thr Glu Gly Asn Pro Arg Trp Glu Gln Thr
 100 105 110

His Leu Thr Tyr Arg Ile Glu Asn Tyr Thr Pro Asp Leu Pro Arg Ala
 115 120 125
 Asp Val Asp His Ala Ile Glu Lys Ala Phe Gln Leu Trp Ser Asn Val
 130 135 140
 Thr Pro Leu Thr Phe Thr Lys Val Ser Glu Gly Gln Ala Asp Ile Met
 145 150 155 160
 Ile Ser Phe Val Arg Gly Asp His Arg Asp Asn Ser Pro Phe Asp Gly
 165 170 175
 Pro Gly Gly Asn Leu Ala His Ala Phe Gln Pro Gly Pro Gly Ile Gly
 180 185 190
 Gly Asp Ala His Phe Asp Glu Asp Glu Arg Trp Thr Asn Asn Phe Arg
 195 200 205
 Glu Tyr Asn Leu His Arg Val Ala Ala His Glu Leu Gly His Ser Leu
 210 215 220
 Gly Leu Ser His Ser Thr Asp Ile Gly Ala Leu Met Tyr Pro Ser Tyr
 225 230 235 240
 Thr Phe Ser Gly Asp Val Gln Leu Ala Gln Asp Asp Ile Asp Gly Ile
 245 250 255
 Gln Ala Ile Tyr Gly Arg Ser Gln Asn Pro Val Gln Pro Ile Gly Pro
 260 265 270
 Gln Thr Pro Lys Ala Cys Asp Ser Lys Leu Thr Phe Asp Ala Ile Thr
 275 280 285
 Thr Ile Arg Gly Glu Val Met Phe Phe Lys Asp Arg Phe Tyr Met Arg
 290 295 300
 Thr Asn Pro Phe Tyr Pro Glu Val Glu Leu Asn Phe Ile Ser Val Phe
 305 310 315 320
 Trp Pro Gln Leu Pro Asn Gly Leu Glu Ala Tyr Glu Phe Ala Asp
 325 330 335
 Arg Asp Glu Val Arg Phe Phe Lys Gly Asn Lys Tyr Trp Ala Val Gln
 340 345 350
 Gly Gln Asn Val Leu His Gly Tyr Pro Lys Asp Ile Tyr Ser Ser Phe
 355 360 365
 Gly Phe Pro Arg Thr Val Lys His Ile Asp Ala Ala Leu Ser Glu Glu
 370 375 380
 Asn Thr Gly Lys Thr Tyr Phe Phe Val Ala Asn Lys Tyr Trp Arg Tyr
 385 390 395 400
 Asp Glu Tyr Lys Arg Ser Met Asp Pro Gly Tyr Pro Lys Met Ile Ala
 405 410 415
 His Asp Phe Pro Gly Ile Gly His Lys Val Asp Ala Val Phe Met Lys
 420 425 430
 Asp Gly Phe Phe Tyr Phe Phe His Gly Thr Arg Gln Tyr Lys Phe Asp
 435 440 445
 Pro Lys Thr Lys Arg Ile Leu Thr Leu Gln Lys Ala Asn Ser Trp Phe
 450 455 460
 Asn Cys Arg Lys Asn
 465

<210> 20

<211> 467

<212> PRT

<213> Homo sapiens

<400> 20

Met Phe Ser Leu Lys Thr Leu Pro Phe Leu Leu Leu Leu His Val Gln

1	5							10							15		
Ile	Ser	Lys	Ala	Phe	Pro	Val	Ser	Ser	Lys	Glu	Lys	Asn	Thr	Lys	Thr		
			20					25					30				
Val	Gln	Asp	Tyr	Leu	Glu	Lys	Phe	Tyr	Gln	Leu	Pro	Ser	Asn	Gln	Tyr		
		35					40					45					
Gln	Ser	Thr	Arg	Lys	Asn	Gly	Thr	Asn	Val	Ile	Val	Glu	Lys	Leu	Lys		
	50					55					60						
Glu	Met	Gln	Arg	Phe	Phe	Gly	Leu	Asn	Val	Thr	Gly	Lys	Pro	Asn	Glu		
65					70					75					80		
Glu	Thr	Leu	Asp	Met	Met	Lys	Lys	Pro	Arg	Cys	Gly	Val	Pro	Asp	Ser		
				85					90					95			
Gly	Gly	Phe	Met	Leu	Thr	Pro	Gly	Asn	Pro	Lys	Trp	Glu	Arg	Thr	Asn		
			100					105					110				
Leu	Thr	Tyr	Arg	Ile	Arg	Asn	Tyr	Thr	Pro	Gln	Leu	Ser	Glu	Ala	Glu		
		115					120					125					
Val	Glu	Arg	Ala	Ile	Lys	Asp	Ala	Phe	Glu	Leu	Trp	Ser	Val	Ala	Ser		
	130					135					140						
Pro	Leu	Ile	Phe	Thr	Arg	Ile	Ser	Gln	Gly	Glu	Ala	Asp	Ile	Asn	Ile		
145					150					155					160		
Ala	Phe	Tyr	Gln	Arg	Asp	His	Gly	Asp	Asn	Ser	Pro	Phe	Asp	Gly	Pro		
				165					170					175			
Asn	Gly	Ile	Leu	Ala	His	Ala	Phe	Gln	Pro	Gly	Gln	Gly	Ile	Gly	Gly		
			180					185					190				
Asp	Ala	His	Phe	Asp	Ala	Glu	Glu	Thr	Trp	Thr	Asn	Thr	Ser	Ala	Asn		
		195					200					205					
Tyr	Asn	Leu	Phe	Leu	Val	Ala	Ala	His	Glu	Phe	Gly	His	Ser	Leu	Gly		
	210					215					220						
Leu	Ala	His	Ser	Ser	Asp	Pro	Gly	Ala	Leu	Met	Tyr	Pro	Asn	Tyr	Ala		
225					230					235					240		
Phe	Arg	Glu	Thr	Ser	Asn	Tyr	Ser	Leu	Pro	Gln	Asp	Asp	Ile	Asp	Gly		
				245					250					255			
Ile	Gln	Ala	Ile	Tyr	Gly	Leu	Ser	Ser	Asn	Pro	Ile	Gln	Pro	Thr	Gly		
			260					265					270				
Pro	Ser	Thr	Pro	Lys	Pro	Cys	Asp	Pro	Ser	Leu	Thr	Phe	Asp	Ala	Ile		
		275					280					285					
Thr	Thr	Leu	Arg	Gly	Glu	Ile	Leu	Phe	Phe	Lys	Asp	Arg	Tyr	Phe	Trp		
	290					295					300						
Arg	Arg	His	Pro	Gln	Leu	Gln	Arg	Val	Glu	Met	Asn	Phe	Ile	Ser	Leu		
305					310					315					320		
Phe	Trp	Pro	Ser	Leu	Pro	Thr	Gly	Ile	Gln	Ala	Ala	Tyr	Glu	Asp	Phe		
				325					330					335			
Asp	Arg	Asp	Leu	Ile	Phe	Leu	Phe	Lys	Gly	Asn	Gln	Tyr	Trp	Ala	Leu		
			340					345					350				
Ser	Gly	Tyr	Asp	Ile	Leu	Gln	Gly	Tyr	Pro	Lys	Asp	Ile	Ser	Asn	Tyr		
		355					360					365			</		

435 440 445
 Ala Gln Arg Val Thr Arg Val Ala Arg Gly Asn Lys Trp Leu Asn Cys
 450 455 460
 Arg Tyr Gly
 465

<210> 21
 <211> 471
 <212> PRT
 <213> Homo sapiens

<400> 21
 Met His Pro Gly Val Leu Ala Ala Phe Leu Phe Leu Ser Trp Thr His
 1 5 10 15
 Cys Arg Ala Leu Pro Leu Pro Ser Gly Gly Asp Glu Asp Asp Leu Ser
 20 25 30
 Glu Glu Asp Leu Gln Phe Ala Glu Arg Tyr Leu Arg Ser Tyr Tyr His
 35 40 45
 Pro Thr Asn Leu Ala Gly Ile Leu Lys Glu Asn Ala Ala Ser Ser Met
 50 55 60
 Thr Glu Arg Leu Arg Glu Met Gln Ser Phe Phe Gly Leu Glu Val Thr
 65 70 75 80
 Gly Lys Leu Asp Asp Asn Thr Leu Asp Val Met Lys Lys Pro Arg Cys
 85 90 95
 Gly Val Pro Asp Val Gly Glu Tyr Asn Val Phe Pro Arg Thr Leu Lys
 100 105 110
 Trp Ser Lys Met Asn Leu Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp
 115 120 125
 Met Thr His Ser Glu Val Glu Lys Ala Phe Lys Lys Ala Phe Lys Val
 130 135 140
 Trp Ser Asp Val Thr Pro Leu Asn Phe Thr Arg Leu His Asp Gly Ile
 145 150 155 160
 Ala Asp Ile Met Ile Ser Phe Gly Ile Lys Glu His Gly Asp Phe Tyr
 165 170 175
 Pro Phe Asp Gly Pro Ser Gly Leu Leu Ala His Ala Phe Pro Pro Gly
 180 185 190
 Pro Asn Tyr Gly Gly Asp Ala His Phe Asp Asp Asp Glu Thr Trp Thr
 195 200 205
 Ser Ser Ser Lys Gly Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe
 210 215 220
 Gly His Ser Leu Gly Leu Asp His Ser Lys Asp Pro Gly Ala Leu Met
 225 230 235 240
 Phe Pro Ile Tyr Thr Tyr Thr Gly Lys Ser His Phe Met Leu Pro Asp
 245 250 255
 Asp Asp Val Gln Gly Ile Gln Ser Leu Tyr Gly Pro Gly Asp Glu Asp
 260 265 270
 Pro Asn Pro Lys His Pro Lys Thr Pro Asp Lys Cys Asp Pro Ser Leu
 275 280 285
 Ser Leu Asp Ala Ile Thr Ser Leu Arg Gly Glu Thr Met Ile Phe Lys
 290 295 300
 Asp Arg Phe Phe Trp Arg Leu His Pro Gln Gln Val Asp Ala Glu Leu
 305 310 315 320
 Phe Leu Thr Lys Ser Phe Trp Pro Glu Leu Pro Asn Arg Ile Asp Ala
 325 330 335

Ala Tyr Glu His Pro Ser His Asp Leu Ile Phe Ile Phe Arg Gly Arg
 340 345 350
 Lys Phe Trp Ala Leu Asn Gly Tyr Asp Ile Leu Glu Gly Tyr Pro Lys
 355 360 365
 Lys Ile Ser Glu Leu Gly Leu Pro Lys Glu Val Lys Lys Ile Ser Ala
 370 375 380
 Ala Val His Phe Glu Asp Thr Gly Lys Thr Leu Leu Phe Ser Gly Asn
 385 390 395 400
 Gln Val Trp Arg Tyr Asp Asp Thr Asn His Ile Met Asp Lys Asp Tyr
 405 410 415
 Pro Arg Leu Ile Glu Glu Asp Phe Pro Gly Ile Gly Asp Lys Val Asp
 420 425 430
 Ala Val Tyr Glu Lys Asn Gly Tyr Ile Tyr Phe Phe Asn Gly Pro Ile
 435 440 445
 Gln Phe Glu Tyr Ser Ile Trp Ser Asn Arg Ile Val Arg Val Met Pro
 450 455 460
 Ala Asn Ser Ile Leu Trp Cys
 465 470

<210> 22

<211> 267

<212> PRT

<213> Homo sapiens

<400> 22

Met Arg Leu Thr Val Leu Cys Ala Val Cys Leu Leu Pro Gly Ser Leu
 1 5 10 15
 Ala Leu Pro Leu Pro Gln Glu Ala Gly Met Ser Glu Leu Gln Trp
 20 25 30
 Glu Gln Ala Gln Asp Tyr Leu Lys Arg Phe Tyr Leu Tyr Asp Ser Glu
 35 40 45
 Thr Lys Asn Ala Asn Ser Leu Glu Ala Lys Leu Lys Glu Met Gln Lys
 50 55 60
 Phe Phe Gly Leu Pro Ile Thr Gly Met Leu Asn Ser Arg Val Ile Glu
 65 70 75 80
 Ile Met Gln Lys Pro Arg Cys Gly Val Pro Asp Val Ala Glu Tyr Ser
 85 90 95
 Leu Phe Pro Asn Ser Pro Lys Trp Thr Ser Lys Val Val Thr Tyr Arg
 100 105 110
 Ile Val Ser Tyr Thr Arg Asp Leu Pro His Ile Thr Val Asp Arg Leu
 115 120 125
 Val Ser Lys Ala Leu Asn Met Trp Gly Lys Glu Ile Pro Leu His Phe
 130 135 140
 Arg Lys Val Val Trp Gly Thr Ala Asp Ile Met Ile Gly Phe Ala Arg
 145 150 155 160
 Gly Ala His Gly Asp Ser Tyr Pro Phe Asp Gly Pro Gly Asn Thr Leu
 165 170 175
 Ala His Ala Phe Ala Pro Gly Thr Gly Leu Gly Gly Asp Ala His Phe
 180 185 190
 Asp Glu Asp Glu Arg Trp Thr Asp Gly Ser Ser Leu Gly Ile Asn Phe
 195 200 205
 Leu Tyr Ala Ala Thr His Glu Leu Gly His Ser Leu Gly Met Gly His
 210 215 220
 Ser Ser Asp Pro Asn Ala Val Met Tyr Pro Thr Tyr Gly Asn Gly Asp

225 230 235 240
 Pro Gln Asn Phe Lys Leu Ser Gln Asp Asp Ile Lys Gly Ile Gln Lys
 245 250 255
 Leu Tyr Gly Lys Arg Ser Asn Ser Arg Lys Lys
 260 265

<210> 23
 <211> 470
 <212> PRT
 <213> Homo sapiens

<400> 23
 Met Lys Phe Leu Leu Ile Leu Leu Leu Gln Ala Thr Ala Ser Gly Ala
 1 5 10 15
 Leu Pro Leu Asn Ser Ser Thr Ser Leu Glu Lys Asn Asn Val Leu Phe
 20 25 30
 Gly Glu Arg Tyr Leu Glu Lys Phe Tyr Gly Leu Glu Ile Asn Lys Leu
 35 40 45
 Pro Val Thr Lys Met Lys Tyr Ser Gly Asn Leu Met Lys Glu Lys Ile
 50 55 60
 Gln Glu Met Gln His Phe Leu Gly Leu Lys Val Thr Gly Gln Leu Asp
 65 70 75 80
 Thr Ser Thr Leu Glu Met Met His Ala Pro Arg Cys Gly Val Pro Asp
 85 90 95
 Val His His Phe Arg Glu Met Pro Gly Gly Pro Val Trp Arg Lys His
 100 105 110
 Tyr Ile Thr Tyr Arg Ile Asn Asn Tyr Thr Pro Asp Met Asn Arg Glu
 115 120 125
 Asp Val Asp Tyr Ala Ile Arg Lys Ala Phe Gln Val Trp Ser Asn Val
 130 135 140
 Thr Pro Leu Lys Phe Ser Lys Ile Asn Thr Gly Met Ala Asp Ile Leu
 145 150 155 160
 Val Val Phe Ala Arg Gly Ala His Gly Asp Phe His Ala Phe Asp Gly
 165 170 175
 Lys Gly Gly Ile Leu Ala His Ala Phe Gly Pro Gly Ser Gly Ile Gly
 180 185 190
 Gly Asp Ala His Phe Asp Glu Asp Glu Phe Trp Thr Thr His Ser Gly
 195 200 205
 Gly Thr Asn Leu Phe Leu Thr Ala Val His Glu Ile Gly His Ser Leu
 210 215 220
 Gly Leu Gly His Ser Ser Asp Pro Lys Ala Val Met Phe Pro Thr Tyr
 225 230 235 240
 Lys Tyr Val Asp Ile Asn Thr Phe Arg Leu Ser Ala Asp Asp Ile Arg
 245 250 255
 Gly Ile Gln Ser Leu Tyr Gly Asp Pro Lys Glu Asn Gln Arg Leu Pro
 260 265 270
 Asn Pro Asp Asn Ser Glu Pro Ala Leu Cys Asp Pro Asn Leu Ser Phe
 275 280 285
 Asp Ala Val Thr Thr Val Gly Asn Lys Ile Phe Phe Phe Lys Asp Arg
 290 295 300
 Phe Phe Trp Leu Lys Val Ser Glu Arg Pro Lys Thr Ser Val Asn Leu
 305 310 315 320
 Ile Ser Ser Leu Trp Pro Thr Leu Pro Ser Gly Ile Glu Ala Ala Tyr
 325 330 335

Glu Ile Glu Ala Arg Asn Gln Val Phe Leu Phe Lys Asp Asp Lys Tyr
 340 345 350
 Trp Leu Ile Ser Asn Leu Arg Pro Glu Pro Asn Tyr Pro Lys Ser Ile
 355 360 365
 His Ser Phe Gly Phe Pro Asn Phe Val Lys Lys Ile Asp Ala Ala Val
 370 375 380
 Phe Asn Pro Arg Phe Tyr Arg Thr Tyr Phe Phe Val Asp Asn Gln Tyr
 385 390 395 400
 Trp Arg Tyr Asp Glu Arg Arg Gln Met Met Asp Pro Gly Tyr Pro Lys
 405 410 415
 Leu Ile Thr Lys Asn Phe Gln Gly Ile Gly Pro Lys Ile Asp Ala Val
 420 425 430
 Phe Tyr Ser Lys Asn Lys Tyr Tyr Phe Phe Gln Gly Ser Asn Gln
 435 440 445
 Phe Glu Tyr Asp Phe Leu Leu Gln Arg Ile Thr Lys Thr Leu Lys Ser
 450 455 460
 Asn Ser Trp Phe Gly Cys
 465 470

<210> 24

<211> 477

<212> PRT

<213> Homo sapiens

<400> 24

Met Lys Ser Leu Pro Ile Leu Leu Leu Leu Cys Val Ala Val Cys Ser
 1 5 10 15
 Ala Tyr Pro Leu Asp Gly Ala Ala Arg Gly Glu Asp Thr Ser Met Asn
 20 25 30
 Leu Val Gln Lys Tyr Leu Glu Asn Tyr Tyr Asp Leu Lys Lys Asp Val
 35 40 45
 Lys Gln Phe Val Arg Arg Lys Asp Ser Gly Pro Val Val Lys Lys Ile
 50 55 60
 Arg Glu Met Gln Lys Phe Leu Gly Leu Glu Val Thr Gly Lys Leu Asp
 65 70 75 80
 Ser Asp Thr Leu Glu Val Met Arg Lys Pro Arg Cys Gly Val Pro Asp
 85 90 95
 Val Gly His Phe Arg Thr Phe Pro Gly Ile Pro Lys Trp Arg Lys Thr
 100 105 110
 His Leu Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp Leu Pro Lys Asp
 115 120 125
 Ala Val Asp Ser Ala Val Glu Lys Ala Leu Lys Val Trp Glu Glu Val
 130 135 140
 Thr Pro Leu Thr Phe Ser Arg Leu Tyr Glu Gly Glu Ala Asp Ile Met
 145 150 155 160
 Ile Ser Phe Ala Val Arg Glu His Gly Asp Phe Tyr Pro Phe Asp Gly
 165 170 175
 Pro Gly Asn Val Leu Ala His Ala Tyr Ala Pro Gly Pro Gly Ile Asn
 180 185 190
 Gly Asp Ala His Phe Asp Asp Asp Glu Gln Trp Thr Lys Asp Thr Thr
 195 200 205
 Gly Thr Asn Leu Phe Leu Val Ala Ala His Glu Ile Gly His Ser Leu
 210 215 220
 Gly Leu Phe His Ser Ala Asn Thr Glu Ala Leu Met Tyr Pro Leu Tyr

225 230 235 240
 His Ser Leu Thr Asp Leu Thr Arg Phe Arg Leu Ser Gln Asp Asp Ile
 245 250 255
 Asn Gly Ile Gln Ser Leu Tyr Gly Pro Pro Pro Asp Ser Pro Glu Thr
 260 265 270
 Pro Leu Val Pro Thr Glu Pro Val Pro Pro Glu Pro Gly Thr Pro Ala
 275 280 285
 Asn Cys Asp Pro Ala Leu Ser Phe Asp Ala Val Ser Thr Leu Arg Gly
 290 295 300
 Glu Ile Leu Ile Phe Lys Asp Arg His Phe Trp Arg Lys Ser Leu Arg
 305 310 315 320
 Lys Leu Glu Pro Glu Leu His Leu Ile Ser Ser Phe Trp Pro Ser Leu
 325 330 335
 Pro Ser Gly Val Asp Ala Ala Tyr Glu Val Thr Ser Lys Asp Leu Val
 340 345 350
 Phe Ile Phe Lys Gly Asn Gln Phe Trp Ala Ile Arg Gly Asn Glu Val
 355 360 365
 Arg Ala Gly Tyr Pro Arg Gly Ile His Thr Leu Gly Phe Pro Pro Thr
 370 375 380
 Val Arg Lys Ile Asp Ala Ala Ile Ser Asp Lys Glu Lys Asn Lys Thr
 385 390 395 400
 Tyr Phe Phe Val Glu Asp Lys Tyr Trp Arg Phe Asp Glu Lys Arg Asn
 405 410 415
 Ser Met Glu Pro Gly Phe Pro Lys Gln Ile Ala Glu Asp Phe Pro Gly
 420 425 430
 Ile Asp Ser Lys Ile Asp Ala Val Phe Glu Glu Phe Gly Phe Phe Tyr
 435 440 445
 Phe Phe Thr Gly Ser Ser Gln Leu Glu Phe Asp Pro Asn Ala Lys Lys
 450 455 460
 Val Thr His Thr Leu Lys Ser Asn Ser Trp Leu Asn Cys
 465 470 475

<210> 25

<211> 476

<212> PRT

<213> Homo sapiens

<400> 25

Met Met His Leu Ala Phe Leu Val Leu Leu Cys Leu Pro Val Cys Ser
 1 5 10 15
 Ala Tyr Pro Leu Ser Gly Ala Ala Lys Glu Glu Asp Ser Asn Lys Asp
 20 25 30
 Leu Ala Gln Gln Tyr Leu Glu Lys Tyr Tyr Asn Leu Glu Lys Asp Val
 35 40 45
 Lys Gln Phe Arg Arg Lys Asp Ser Asn Leu Ile Val Lys Lys Ile Gln
 50 55 60
 Gly Met Gln Lys Phe Leu Gly Leu Glu Val Thr Gly Lys Leu Asp Thr
 65 70 75 80
 Asp Thr Leu Glu Val Met Arg Lys Pro Arg Cys Gly Val Pro Asp Val
 85 90 95
 Gly His Phe Ser Ser Phe Pro Gly Met Pro Lys Trp Arg Lys Thr His
 100 105 110
 Leu Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp Leu Pro Arg Asp Ala
 115 120 125

Val Asp Ser Ala Ile Glu Lys Ala Leu Lys Val Trp Glu Glu Val Thr
 130 135 140
 Pro Leu Thr Phe Ser Arg Leu Tyr Glu Gly Glu Ala Asp Ile Met Ile
 145 150 155 160
 Ser Phe Ala Val Lys Glu His Gly Asp Phe Tyr Ser Phe Asp Gly Pro
 165 170 175
 Gly His Ser Leu Ala His Ala Tyr Pro Pro Gly Pro Gly Leu Tyr Gly
 180 185 190
 Asp Ile His Phe Asp Asp Asp Glu Lys Trp Thr Glu Asp Ala Ser Gly
 195 200 205
 Thr Asn Leu Phe Leu Val Ala His Glu Leu Gly His Ser Leu Gly
 210 215 220
 Leu Phe His Ser Ala Asn Thr Glu Ala Leu Met Tyr Pro Leu Tyr Asn
 225 230 235 240
 Ser Phe Thr Glu Leu Ala Gln Phe Arg Leu Ser Gln Asp Asp Val Asn
 245 250 255
 Gly Ile Gln Ser Leu Tyr Gly Pro Pro Pro Ala Ser Thr Glu Glu Pro
 260 265 270
 Leu Val Pro Thr Lys Ser Val Pro Ser Gly Ser Glu Met Pro Ala Lys
 275 280 285
 Cys Asp Pro Ala Leu Ser Phe Asp Ala Ile Ser Thr Leu Arg Gly Glu
 290 295 300
 Tyr Leu Phe Phe Lys Asp Arg Tyr Phe Trp Arg Arg Ser His Trp Asn
 305 310 315 320
 Pro Glu Pro Glu Phe His Leu Ile Ser Ala Phe Trp Pro Ser Leu Pro
 325 330 335
 Ser Tyr Leu Asp Ala Ala Tyr Glu Val Asn Ser Arg Asp Thr Val Phe
 340 345 350
 Ile Phe Lys Gly Asn Glu Phe Trp Ala Ile Arg Gly Asn Glu Val Gln
 355 360 365
 Ala Gly Tyr Pro Arg Gly Ile His Thr Leu Gly Phe Pro Pro Thr Ile
 370 375 380
 Arg Lys Ile Asp Ala Ala Val Ser Asp Lys Glu Lys Lys Lys Thr Tyr
 385 390 395 400
 Phe Phe Ala Ala Asp Lys Tyr Trp Arg Phe Asp Glu Asn Ser Gln Ser
 405 410 415
 Met Glu Gln Gly Phe Pro Arg Leu Ile Ala Asp Asp Phe Pro Gly Val
 420 425 430
 Glu Pro Lys Val Asp Ala Val Leu Gln Ala Phe Gly Phe Phe Tyr Phe
 435 440 445
 Phe Ser Gly Ser Ser Gln Phe Glu Phe Asp Pro Asn Ala Arg Met Val
 450 455 460
 Thr His Ile Leu Lys Ser Asn Ser Trp Leu His Cys
 465 470 475

<210> 26

<211> 488

<212> PRT

<213> Homo sapiens

<400> 26

Met Ala Pro Ala Ala Trp Leu Arg Ser Ala Ala Ala Arg Ala Leu Leu

1

5

10

15

Pro Pro Met Leu Leu Leu Leu Leu Gln Pro Pro Pro Leu Leu Ala Arg

[illegible]

450	455	460
Ala Leu Glu Gly Phe Pro Arg Leu Val Gly Pro Asp Phe Phe Gly Cys		
465	470	475
Ala Glu Pro Ala Asn Thr Phe Leu		480
485		

<210> 27
 <211> 582
 <212> PRT
 <213> Homo sapiens

<400> 27

Met Ser Pro Ala Pro Arg Pro Ser Arg Cys Leu Leu Leu Pro Leu Leu		
1	5	10
Thr Leu Gly Thr Ala Leu Ala Ser Leu Gly Ser Ala Gln Ser Ser Ser		
20	25	30
Phe Ser Pro Glu Ala Trp Leu Gln Gln Tyr Gly Tyr Leu Pro Pro Gly		
35	40	45
Asp Leu Arg Thr His Thr Gln Arg Ser Pro Gln Ser Leu Ser Ala Ala		
50	55	60
Ile Ala Ala Met Gln Lys Phe Tyr Gly Leu Gln Val Thr Gly Lys Ala		
65	70	75
Asp Ala Asp Thr Met Lys Ala Met Arg Arg Pro Arg Cys Gly Val Pro		
85	90	95
Asp Lys Phe Gly Ala Glu Ile Lys Ala Asn Val Arg Arg Lys Arg Tyr		
100	105	110
Ala Ile Gln Gly Leu Lys Trp Gln His Asn Glu Ile Thr Phe Cys Ile		
115	120	125
Gln Asn Tyr Thr Pro Lys Val Gly Glu Tyr Ala Thr Tyr Glu Ala Ile		
130	135	140
Arg Lys Ala Phe Arg Val Trp Glu Ser Ala Thr Pro Leu Arg Phe Arg		
145	150	155
Glu Val Pro Tyr Ala Tyr Ile Arg Glu Gly His Glu Lys Gln Ala Asp		
165	170	175
Ile Met Ile Phe Phe Ala Glu Gly Phe His Gly Asp Ser Thr Pro Phe		
180	185	190
Asp Gly Glu Gly Gly Phe Leu Ala His Ala Tyr Phe Pro Gly Pro Asn		
195	200	205
Ile Gly Gly Asp Thr His Phe Asp Ser Ala Glu Pro Trp Thr Val Arg		
210	215	220
Asn Glu Asp Leu Asn Gly Asn Asp Ile Phe Leu Val Ala Val His Glu		
225	230	235
Leu Gly His Ala Leu Gly Leu Glu His Ser Ser Asp Pro Ser Ala Ile		
245	250	255
Met Ala Pro Phe Tyr Gln Trp Met Asp Thr Glu Asn Phe Val Leu Pro		
260	265	270
Asp Asp Asp Arg Arg Gly Ile Gln Gln Leu Tyr Gly Gly Glu Ser Gly		
275	280	285
Phe Pro Thr Lys Met Pro Pro Gln Pro Arg Thr Thr Ser Arg Pro Ser		
290	295	300
Val Pro Asp Lys Pro Lys Asn Pro Thr Tyr Gly Pro Asn Ile Cys Asp		
305	310	315
Gly Asn Phe Asp Thr Val Ala Met Leu Arg Gly Glu Met Phe Val Phe		
325	330	335

Lys Lys Arg Trp Phe Trp Arg Val Arg Asn Asn Gln Val Met Asp Gly
 340 345 350
 Tyr Pro Met Pro Ile Gly Gln Phe Trp Arg Gly Leu Pro Ala Ser Ile
 355 360 365
 Asn Thr Ala Tyr Glu Arg Lys Asp Gly Lys Phe Val Phe Phe Lys Gly
 370 375 380
 Asp Lys His Trp Val Phe Asp Glu Ala Ser Leu Glu Pro Gly Tyr Pro
 385 390 395 400
 Lys His Ile Lys Glu Leu Gly Arg Gly Leu Pro Thr Asp Lys Ile Asp
 405 410 415
 Ala Ala Leu Phe Trp Met Pro Asn Gly Lys Thr Tyr Phe Phe Arg Gly
 420 425 430
 Asn Lys Tyr Trp Arg Phe Asn Glu Leu Arg Ala Val Asp Ser Glu
 435 440 445
 Tyr Pro Lys Asn Ile Lys Val Trp Glu Gly Ile Pro Glu Ser Pro Arg
 450 455 460
 Gly Ser Phe Met Gly Ser Asp Glu Val Phe Thr Tyr Phe Tyr Lys Gly
 465 470 475 480
 Asn Lys Tyr Trp Lys Phe Asn Asn Gln Lys Leu Lys Val Glu Pro Gly
 485 490 495
 Tyr Pro Lys Ser Ala Leu Arg Asp Trp Met Gly Cys Pro Ser Gly Gly
 500 505 510
 Arg Pro Asp Glu Gly Thr Glu Glu Glu Thr Glu Val Ile Ile Ile Glu
 515 520 525
 Val Asp Glu Glu Gly Gly Gly Ala Val Ser Ala Ala Val Val Leu
 530 535 540
 Pro Val Leu Leu Leu Leu Leu Val Leu Ala Val Gly Leu Ala Val Phe
 545 550 555 560
 Phe Phe Arg Arg His Gly Thr Pro Arg Arg Leu Leu Tyr Cys Gln Arg
 565 570 575
 Ser Leu Leu Asp Lys Val
 580

<210> 28

<211> 669

<212> PRT

<213> Homo sapiens

<400> 28

Met Gly Ser Asp Pro Ser Ala Pro Gly Arg Pro Gly Trp Thr Gly Ser
 1 5 10 15
 Leu Leu Gly Asp Arg Glu Glu Ala Ala Arg Pro Arg Leu Leu Pro Leu
 20 25 30
 Leu Leu Val Leu Leu Gly Cys Leu Gly Leu Gly Val Ala Ala Glu Asp
 35 40 45
 Ala Glu Val His Ala Glu Asn Trp Leu Arg Leu Tyr Gly Tyr Leu Pro
 50 55 60
 Gln Pro Ser Arg His Met Ser Thr Met Arg Ser Ala Gln Ile Leu Ala
 65 70 75 80
 Ser Ala Leu Ala Glu Met Gln Arg Phe Tyr Gly Ile Pro Val Thr Gly
 85 90 95
 Val Leu Asp Glu Glu Thr Lys Glu Trp Met Lys Arg Pro Arg Cys Gly
 100 105 110
 Val Pro Asp Gln Phe Gly Val Arg Val Lys Ala Asn Leu Arg Arg Arg

		115					120					125						
Arg	Lys	Arg	Tyr	Ala	Leu	Thr	Gly	Arg	Lys	Trp	Asn	Asn	His	His	Leu			
	130					135					140							
Thr	Phe	Ser	Ile	Gln	Asn	Tyr	Thr	Glu	Lys	Leu	Gly	Trp	Tyr	His	Ser			
145					150					155					160			
Met	Glu	Ala	Val	Arg	Arg	Ala	Phe	Arg	Val	Trp	Glu	Gln	Ala	Thr	Pro			
				165						170				175				
Leu	Val	Phe	Gln	Glu	Val	Pro	Tyr	Glu	Asp	Ile	Arg	Leu	Arg	Arg	Gln			
			180					185					190					
Lys	Glu	Ala	Asp	Ile	Met	Val	Leu	Phe	Ala	Ser	Gly	Phe	His	Gly	Asp			
		195					200					205						
Ser	Ser	Pro	Phe	Asp	Gly	Thr	Gly	Gly	Phe	Leu	Ala	His	Ala	Tyr	Phe			
	210					215					220							
Pro	Gly	Pro	Gly	Leu	Gly	Gly	Asp	Thr	His	Phe	Asp	Ala	Asp	Glu	Pro			
225					230						235			240				
Trp	Thr	Phe	Ser	Ser	Thr	Asp	Leu	His	Gly	Asn	Asn	Leu	Phe	Leu	Val			
				245					250					255				
Ala	Val	His	Glu	Leu	Gly	His	Ala	Leu	Gly	Leu	Glu	His	Ser	Ser	Asn			
			260					265					270					
Pro	Asn	Ala	Ile	Met	Ala	Pro	Phe	Tyr	Gln	Trp	Lys	Asp	Val	Asp	Asn			
		275					280					285						
Phe	Lys	Leu	Pro	Glu	Asp	Asp	Leu	Arg	Gly	Ile	Gln	Gln	Leu	Tyr	Gly			
	290					295					300							
Thr	Pro	Asp	Gly	Gln	Pro	Gln	Pro	Thr	Gln	Pro	Leu	Pro	Thr	Val	Thr			
305					310						315				320			
Pro	Arg	Arg	Pro	Gly	Arg	Pro	Asp	His	Arg	Pro	Pro	Arg	Pro	Pro	Gln			
				325					330					335				
Pro	Pro	Pro	Pro	Gly	Gly	Lys	Pro	Glu	Arg	Pro	Pro	Lys	Pro	Gly	Pro			
			340					345					350					
Pro	Val	Gln	Pro	Arg	Ala	Thr	Glu	Arg	Pro	Asp	Gln	Tyr	Gly	Pro	Asn			
		355					360					365						
Ile	Cys	Asp	Gly	Asp	Phe	Asp	Thr	Val	Ala	Met	Leu	Arg	Gly	Glu	Met			
	370					375					380							
Phe	Val	Phe	Lys	Gly	Arg	Trp	Phe	Trp	Arg	Val	Arg	His	Asn	Arg	Val			
385					390					395					400			
Leu	Asp	Asn	Tyr	Pro	Met	Pro	Ile	Gly	His	Phe	Trp	Arg	Gly	Leu	Pro			
				405					410					415				
Gly	Asp	Ile	Ser	Ala	Ala	Tyr	Glu	Arg	Gln	Asp	Gly	Arg	Phe	Val	Phe			
			420					425					430					
Phe	Lys	Gly	Asp	Arg	Tyr	Trp	Leu	Phe	Arg									

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<210> 29
<211> 607
<212> PRT
<213> Homo sapiens
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<400> 29															
Met 1	Ile	Leu	Leu	Thr 5	Phe	Ser	Thr	Gly	Arg 10	Arg	Leu	Asp	Phe	Val 15	His
His	Ser	Gly	Val 20	Phe	Phe	Leu	Gln	Thr 25	Leu	Leu	Trp	Ile 30	Leu	Cys	Ala
Thr	Val	Cys 35	Gly	Thr	Glu	Gln	Tyr 40	Phe	Asn	Val	Glu 45	Val	Trp	Leu	Gln
Lys	Tyr 50	Gly	Tyr	Leu	Pro	Pro 55	Thr	Asp	Pro	Arg	Met 60	Ser	Val	Leu	Arg
Ser 65	Ala	Glu	Thr	Met	Gln 70	Ser	Ala	Leu	Ala 75	Ala	Met	Gln	Gln	Phe	Tyr 80
Gly	Ile	Asn	Met 85	Thr	Gly	Lys	Val	Asp 90	Arg	Asn	Thr	Ile	Asp 95	Trp	Met
Lys	Lys	Pro 100	Arg	Cys	Gly	Val	Pro	Asp 105	Gln	Thr	Arg	Gly 110	Ser	Ser	Lys
Phe	His 115	Ile	Arg	Arg	Lys	Arg	Tyr 120	Ala	Leu	Thr	Gly 125	Gln	Lys	Trp	Gln
His 130	Lys	His	Ile	Thr	Tyr	Ser 135	Ile	Lys	Asn	Val	Thr 140	Pro	Lys	Val	Gly
Asp 145	Pro	Glu	Thr	Arg	Lys 150	Ala	Ile	Arg	Arg	Ala 155	Phe	Asp	Val	Trp	Gln 160
Asn	Val	Thr	Pro	Leu 165	Thr	Phe	Glu	Glu	Val 170	Pro	Tyr	Ser	Glu 175	Leu	Glu
Asn	Gly	Lys 180	Arg	Asp	Val	Asp	Ile	Thr 185	Ile	Ile	Phe	Ala 190	Ser	Gly	Phe
His	Gly 195	Asp	Ser	Ser	Pro	Phe	Asp 200	Gly	Glu	Gly	Gly 205	Phe	Leu	Ala	His
Ala	Tyr 210	Phe	Pro	Gly	Pro	Gly 215	Ile	Gly	Gly	Asp	Thr 220	His	Phe	Asp	Ser
Asp 225	Glu	Pro	Trp	Thr	Leu 230	Gly	Asn	Pro	Asn	His 235	Asp	Gly	Asn	Asp	Leu 240
Phe	Leu	Val	Ala 245	Val	His	Glu	Leu	Gly 250	His	Ala	Leu	Gly	Leu	Glu	His 255

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Ser Asn Asp Pro Thr Ala Ile Met Ala Pro Phe Tyr Gln Tyr Met Glu
    260                      265                      270
Thr Asp Asn Phe Lys Leu Pro Asn Asp Asp Leu Gln Gly Ile Gln Lys
    275                      280                      285
Ile Tyr Gly Pro Pro Asp Lys Ile Pro Pro Pro Thr Arg Pro Leu Pro
    290                      295                      300
Thr Val Pro Pro His Arg Ser Ile Pro Pro Ala Asp Pro Arg Lys Asn
    305                      310                      315                      320
Asp Arg Pro Lys Pro Pro Arg Pro Pro Thr Gly Arg Pro Ser Tyr Pro
    325                      330                      335
Gly Ala Lys Pro Asn Ile Cys Asp Gly Asn Phe Asn Thr Leu Ala Ile
    340                      345                      350
Leu Arg Arg Glu Met Phe Val Phe Lys Asp Gln Trp Phe Trp Arg Val
    355                      360                      365
Arg Asn Asn Arg Val Met Asp Gly Tyr Pro Met Gln Ile Thr Tyr Phe
    370                      375                      380
Trp Arg Gly Leu Pro Pro Ser Ile Asp Ala Val Tyr Glu Asn Ser Asp
    385                      390                      395                      400
Gly Asn Phe Val Phe Phe Lys Gly Asn Lys Tyr Trp Val Phe Lys Asp
    405                      410                      415
Thr Thr Leu Gln Pro Gly Tyr Pro His Asp Leu Ile Thr Leu Gly Ser
    420                      425                      430
Gly Ile Pro Pro His Gly Ile Asp Ser Ala Ile Trp Trp Glu Asp Val
    435                      440                      445
Gly Lys Thr Tyr Phe Phe Lys Gly Asp Arg Tyr Trp Arg Tyr Ser Glu
    450                      455                      460
Glu Met Lys Thr Met Asp Pro Gly Tyr Pro Lys Pro Ile Thr Val Trp
    465                      470                      475                      480
Lys Gly Ile Pro Glu Ser Pro Gln Gly Ala Phe Val His Lys Glu Asn
    485                      490                      495
Gly Phe Thr Tyr Phe Tyr Lys Gly Lys Glu Tyr Trp Lys Phe Asn Asn
    500                      505                      510
Gln Ile Leu Lys Val Glu Pro Gly Tyr Pro Arg Ser Ile Leu Lys Asp
    515                      520                      525
Phe Met Gly Cys Asp Gly Pro Thr Asp Arg Val Lys Glu Gly His Ser
    530                      535                      540
Pro Pro Asp Asp Val Asp Ile Val Ile Lys Leu Asp Asn Thr Ala Ser
    545                      550                      555                      560
Thr Val Lys Ala Ile Ala Ile Val Ile Pro Cys Ile Leu Ala Leu Cys
    565                      570                      575
Leu Leu Val Leu Val Tyr Thr Val Phe Gln Phe Lys Arg Lys Gly Thr
    580                      585                      590
Pro Arg His Ile Leu Tyr Cys Lys Arg Ser Met Gln Glu Trp Val
    595                      600                      605

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<210> 30

<211> 519

<212> PRT

<213> Homo sapiens

<400> 30

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Met Gln Gln Phe Gly Gly Leu Glu Ala Thr Gly Ile Leu Asp Glu Ala
  1                      5                      10                      15
Thr Leu Ala Leu Met Lys Thr Pro Arg Cys Ser Leu Pro Asp Leu Pro

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			20				25				30					
Val	Leu	Thr	Gln	Ala	Arg	Arg	Arg	Gln	Ala	Pro	Ala	Pro	Thr	Lys		
		35					40				45					
Trp	Asn	Lys	Arg	Asn	Leu	Ser	Trp	Arg	Val	Arg	Thr	Phe	Pro	Arg	Asp	
	50					55					60					
Ser	Pro	Leu	Gly	His	Asp	Thr	Val	Arg	Ala	Leu	Met	Tyr	Tyr	Ala	Leu	
65					70					75					80	
Lys	Val	Trp	Ser	Asp	Ile	Ala	Pro	Leu	Asn	Phe	His	Glu	Val	Ala	Gly	
				85					90					95		
Ser	Thr	Ala	Asp	Ile	Gln	Ile	Asp	Phe	Ser	Lys	Ala	Asp	His	Asn	Asp	
			100					105					110			
Gly	Tyr	Pro	Phe	Asp	Gly	Pro	Gly	Gly	Thr	Val	Ala	His	Ala	Phe	Phe	
		115					120					125				
Pro	Gly	His	His	His	Thr	Ala	Gly	Asp	Thr	His	Phe	Asp	Asp	Asp	Glu	
	130					135					140					
Ala	Trp	Thr	Phe	Arg	Ser	Ser	Asp	Ala	His	Gly	Met	Asp	Leu	Phe	Ala	
145					150					155					160	
Val	Ala	Val	His	Glu	Phe	Gly	His	Ala	Ile	Gly	Leu	Ser	His	Val	Ala	
			165						170					175		
Ala	Ala	His	Ser	Ile	Met	Arg	Pro	Tyr	Tyr	Gln	Gly	Pro	Val	Gly	Asp	
			180					185					190			
Pro	Leu	Arg	Tyr	Gly	Leu	Pro	Tyr	Glu	Asp	Lys	Val	Arg	Val	Trp	Gln	
		195					200					205				
Leu	Tyr	Gly	Val	Arg	Glu	Ser	Val	Ser	Pro	Thr	Ala	Gln	Pro	Glu	Glu	
	210					215					220					
Pro	Pro	Leu	Leu	Pro	Glu	Pro	Pro	Asp	Asn	Arg	Ser	Ser	Ala	Pro	Pro	
225					230					235					240	
Arg	Lys	Asp	Val	Pro	His	Arg	Cys	Ser	Thr	His	Phe	Asp	Ala	Val	Ala	
				245						250				255		
Gln	Ile	Arg	Gly	Glu	Ala	Phe	Phe	Phe	Lys	Gly	Lys	Tyr	Phe	Trp	Arg	
			260				265						270			
Leu	Thr	Arg	Asp	Arg	His	Leu	Val	Ser	Leu	Gln	Pro	Ala	Gln	Met	His	
		275					280					285				
Arg	Phe	Trp	Arg	Gly	Leu	Pro	Leu	His	Leu	Asp	Ser	Val	Asp	Ala	Val	
	290					295					300					
Tyr	Glu	Arg	Thr	Ser	Asp	His	Lys	Ile	Val	Phe	Phe	Lys	Gly	Asp	Arg	
305					310					315					320	
Tyr	Trp	Val	Phe	Lys	Asp	Asn	Asn	Val	Glu	Glu	Gly	Tyr	Pro	Arg	Pro	
				325					330					335		
Val	Ser	Asp	Phe	Ser	Leu	Pro	Pro	Gly	Gly	Ile	Asp	Ala	Ala	Phe	Ser	
			340					345					350			
Trp	Ala	His	Asn	Asp	Arg	Thr	Tyr	Phe	Phe	Lys	Asp	Gln	Leu	Tyr	Trp	
		355					360					365				
Arg	Tyr	Asp	Asp	His	Thr	Arg	His	Met	Asp	Pro	Gly	Tyr	Pro	Ala	Gln	
	370					375					3					

450		455		460
His Asp Gln Ser Arg Ser Glu Asp Gly Tyr Glu Val Cys Ser Cys Thr				
465		470		475
Ser Gly Ala Ser Ser Pro Pro Gly Ala Pro Gly Pro Leu Val Ala Ala				480
		485		490
Thr Met Leu Leu Leu Leu Pro Pro Leu Ser Pro Gly Ala Leu Trp Thr				495
		500		505
Ala Ala Gln Ala Leu Thr Leu				510
515				

<210> 31

<211> 508

<212> PRT

<213> Homo sapiens

<400> 31

Met Asn Cys Gln Gln Leu Trp Leu Gly Phe Leu Leu Pro Met Thr Val				
1		5		10
Ser Gly Arg Val Leu Gly Leu Ala Glu Val Ala Pro Val Asp Tyr Leu				
		20		25
Ser Gln Tyr Gly Tyr Leu Gln Lys Pro Leu Glu Gly Ser Asn Asn Phe				30
		35		40
Lys Pro Glu Asp Ile Thr Glu Ala Leu Arg Ala Phe Gln Glu Ala Ser				45
		50		55
Glu Leu Pro Val Ser Gly Gln Leu Asp Asp Ala Thr Arg Ala Arg Met				60
65		70		75
Arg Gln Pro Arg Cys Gly Leu Glu Asp Pro Phe Asn Gln Lys Thr Leu				80
		85		90
Lys Tyr Leu Leu Leu Gly Arg Trp Arg Lys Lys His Leu Thr Phe Arg				95
		100		105
Ile Leu Asn Leu Pro Ser Thr Leu Pro Pro His Thr Ala Arg Ala Ala				110
		115		120
Leu Arg Gln Ala Phe Gln Asp Trp Ser Asn Val Ala Pro Leu Thr Phe				125
		130		135
Gln Glu Val Gln Ala Gly Ala Ala Asp Ile Arg Leu Ser Phe His Gly				140
145		150		155
Arg Gln Ser Ser Tyr Cys Ser Asn Thr Phe Asp Gly Pro Gly Arg Val				160
		165		170
Leu Ala His Ala Asp Ile Pro Glu Leu Gly Ser Val His Phe Asp Glu				175
		180		185
Asp Glu Phe Trp Thr Glu Gly Thr Tyr Arg Gly Val Asn Leu Arg Ile				190
		195		200
Ile Ala Ala His Glu Val Gly His Ala Leu Gly Leu Gly His Ser Arg				205
		210		215
Tyr Ser Gln Ala Leu Met Ala Pro Val Tyr Glu Gly Tyr Arg Pro His				220
225		230		235
Phe Lys Leu His Pro Asp Asp Val Ala Gly Ile Gln Ala Leu Tyr Gly				240
		245		250
Lys Lys Ser Pro Val Ile Arg Asp Glu Glu Glu Glu Glu Thr Glu Leu				255
		260		265
Pro Thr Val Pro Pro Val Pro Thr Glu Pro Ser Pro Met Pro Asp Pro				270
		275		280
Cys Ser Ser Glu Leu Asp Ala Met Met Leu Gly Pro Arg Gly Lys Thr				285
290		295		300

Tyr Ala Phe Lys Gly Asp Tyr Val Trp Thr Val Ser Asp Ser Gly Pro
 305 310 315 320
 Gly Pro Leu Phe Arg Val Ser Ala Leu Trp Glu Gly Leu Pro Gly Asn
 325 330 335
 Leu Asp Ala Ala Val Tyr Ser Pro Arg Thr Gln Trp Ile His Phe Phe
 340 345 350
 Lys Gly Asp Lys Val Trp Arg Tyr Ile Asn Phe Lys Met Ser Pro Gly
 355 360 365
 Phe Pro Lys Lys Leu Asn Arg Val Glu Pro Asn Leu Asp Ala Ala Leu
 370 375 380
 Tyr Trp Pro Leu Asn Gln Lys Val Phe Leu Phe Lys Gly Ser Gly Tyr
 385 390 395 400
 Trp Gln Trp Asp Glu Leu Ala Arg Thr Asp Phe Ser Ser Tyr Pro Lys
 405 410 415
 Pro Ile Lys Gly Leu Phe Thr Gly Val Pro Asn Gln Pro Ser Ala Ala
 420 425 430
 Met Ser Trp Gln Asp Gly Arg Val Tyr Phe Phe Lys Gly Lys Val Tyr
 435 440 445
 Trp Arg Leu Asn Gln Gln Leu Arg Val Glu Lys Gly Tyr Pro Arg Asn
 450 455 460
 Ile Ser His Asn Trp Met His Cys Arg Pro Arg Thr Ile Asp Thr Thr
 465 470 475 480
 Pro Ser Gly Gly Asn Thr Thr Pro Ser Gly Thr Gly Ile Thr Leu Asp
 485 490 495
 Thr Thr Leu Ser Ala Thr Glu Thr Thr Phe Glu Tyr
 500 505

<210> 32

<211> 471

<212> PRT

<213> Homo sapiens

<400> 32

Met His Pro Gly Val Leu Ala Ala Phe Leu Phe Leu Ser Trp Thr His
 1 5 10 15
 Cys Arg Ala Leu Pro Leu Pro Ser Gly Gly Asp Glu Asp Asp Leu Ser
 20 25 30
 Glu Glu Asp Leu Gln Phe Ala Glu Arg Tyr Leu Arg Ser Tyr Tyr His
 35 40 45
 Pro Thr Asn Leu Ala Gly Ile Leu Lys Glu Asn Ala Ala Ser Ser Met
 50 55 60
 Thr Glu Arg Leu Arg Glu Met Gln Ser Phe Phe Gly Leu Glu Val Thr
 65 70 75 80
 Gly Lys Leu Asp Asp Asn Thr Leu Asp Val Met Lys Lys Pro Arg Cys
 85 90 95
 Gly Val Pro Asp Val Gly Glu Tyr Asn Val Phe Pro Arg Thr Leu Lys
 100 105 110
 Trp Ser Lys Met Asn Leu Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp
 115 120 125
 Met Thr His Ser Glu Val Glu Lys Ala Phe Lys Lys Ala Phe Lys Val
 130 135 140
 Trp Ser Asp Val Thr Pro Leu Asn Phe Thr Arg Leu His Asp Gly Ile
 145 150 155 160
 Ala Asp Ile Met Ile Ser Phe Gly Ile Lys Glu His Gly Asp Phe Tyr

165 170 175
 Pro Phe Asp Gly Pro Ser Gly Leu Leu Ala His Ala Phe Pro Pro Gly
 180 185 190
 Pro Asn Tyr Gly Gly Asp Ala His Phe Asp Asp Asp Glu Thr Trp Thr
 195 200 205
 Ser Ser Ser Lys Gly Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe
 210 215 220
 Gly His Ser Leu Gly Leu Asp His Ser Lys Asp Pro Gly Ala Leu Met
 225 230 235 240
 Phe Pro Ile Tyr Thr Tyr Thr Gly Lys Ser His Phe Met Leu Pro Asp
 245 250 255
 Asp Asp Val Gln Gly Ile Gln Ser Leu Tyr Gly Pro Gly Asp Glu Asp
 260 265 270
 Pro Asn Pro Lys His Pro Lys Thr Pro Asp Lys Cys Asp Pro Ser Leu
 275 280 285
 Ser Leu Asp Ala Ile Thr Ser Leu Arg Gly Glu Thr Met Ile Phe Lys
 290 295 300
 Asp Arg Phe Phe Trp Arg Leu His Pro Gln Gln Val Asp Ala Glu Leu
 305 310 315 320
 Phe Leu Thr Lys Ser Phe Trp Pro Glu Leu Pro Asn Arg Ile Asp Ala
 325 330 335
 Ala Tyr Glu His Pro Ser His Asp Leu Ile Phe Ile Phe Arg Gly Arg
 340 345 350
 Lys Phe Trp Ala Leu Asn Gly Tyr Asp Ile Leu Glu Gly Tyr Pro Lys
 355 360 365
 Lys Ile Ser Glu Leu Gly Leu Pro Lys Glu Val Lys Lys Ile Ser Ala
 370 375 380
 Ala Val His Phe Glu Asp Thr Gly Lys Thr Leu Leu Phe Ser Gly Asn
 385 390 395 400
 Gln Val Trp Arg Tyr Asp Asp Thr Asn His Ile Met Asp Lys Asp Tyr
 405 410 415
 Pro Arg Leu Ile Glu Glu Asp Phe Pro Gly Ile Gly Asp Lys Val Asp
 420 425 430
 Ala Val Tyr Glu Lys Asn Gly Tyr Ile Tyr Phe Phe Asn Gly Pro Ile
 435 440 445
 Gln Phe Glu Tyr Ser Ile Trp Ser Asn Arg Ile Val Arg Val Met Pro
 450 455 460
 Ala Asn Ser Ile Leu Trp Cys
 465 470

<210> 33

<211> 183

<212> PRT

<213> Homo sapiens

<400> 33

Met Asp Pro Gly Thr Val Ala Thr Met Arg Lys Pro Arg Cys Ser Leu
 1 5 10 15
 Pro Asp Val Leu Gly Val Ala Gly Leu Val Arg Arg Arg Arg Arg Tyr
 20 25 30
 Ala Leu Ser Gly Ser Val Trp Lys Lys Arg Thr Leu Thr Trp Arg Val
 35 40 45
 Arg Ser Phe Pro Gln Ser Ser Gln Leu Ser Gln Glu Thr Val Arg Val
 50 55 60

Leu Met Ser Tyr Ala Leu Met Ala Trp Gly Met Glu Ser Gly Leu Thr
 65 70 75 80
 Phe His Glu Val Asp Ser Pro Gln Gly Gln Glu Pro Asp Ile Leu Ile
 85 90 95
 Asp Phe Ala Arg Ala Phe His Gln Asp Ser Tyr Pro Phe Asp Gly Leu
 100 105 110
 Gly Gly Thr Leu Ala His Ala Phe Phe Pro Gly Glu His Pro Ile Ser
 115 120 125
 Gly Asp Thr His Phe Asp Asp Glu Glu Thr Trp Thr Phe Gly Ser Lys
 130 135 140
 Ala Ser Gln Gln Leu Glu Gln Glu Leu Ala Gly Gly Ser Pro Val Asp
 145 150 155 160
 Glu Glu Leu Gly Phe Ser Arg Gly Trp Arg Val Asn Pro Leu Gly Pro
 165 170 175
 Gly Ser Pro Glu Arg Leu Ser
 180

<210> 34

<211> 390

<212> PRT

<213> Homo sapiens

<400> 34

Met Gly Arg Gly Ala Arg Val Pro Ser Glu Ala Pro Gly Ala Gly Val
 1 5 10 15
 Glu Arg Arg Trp Leu Gly Ala Ala Leu Val Ala Leu Cys Leu Leu Pro
 20 25 30
 Ala Leu Val Leu Leu Ala Arg Leu Gly Ala Pro Ala Val Pro Ala Trp
 35 40 45
 Ser Ala Ala Gln Gly Asp Val Ala Ala Leu Gly Leu Ser Ala Val Pro
 50 55 60
 Pro Thr Arg Val Pro Gly Pro Leu Ala Pro Arg Arg Arg Arg Tyr Thr
 65 70 75 80
 Leu Thr Pro Ala Arg Leu Arg Trp Asp His Phe Asn Leu Thr Tyr Arg
 85 90 95
 Ile Leu Ser Phe Pro Arg Asn Leu Leu Ser Pro Arg Glu Thr Arg Arg
 100 105 110
 Ala Leu Ala Ala Ala Phe Arg Met Trp Ser Asp Val Ser Pro Phe Ser
 115 120 125
 Phe Arg Glu Val Ala Pro Glu Gln Pro Ser Asp Leu Arg Ile Gly Phe
 130 135 140
 Tyr Pro Ile Asn His Thr Asp Cys Leu Val Ser Ala Leu His His Cys
 145 150 155 160
 Phe Asp Gly Pro Thr Gly Glu Leu Ala His Ala Phe Phe Pro Pro His
 165 170 175
 Gly Gly Ile His Phe Asp Asp Ser Glu Tyr Trp Val Leu Gly Pro Thr
 180 185 190
 Arg Tyr Ser Trp Lys Lys Gly Val Trp Leu Thr Asp Leu Val His Val
 195 200 205
 Ala Ala His Glu Ile Gly His Ala Leu Gly Leu Met His Ser Gln His
 210 215 220
 Gly Arg Ala Leu Met His Leu Asn Ala Thr Leu Arg Gly Trp Lys Ala
 225 230 235 240
 Leu Ser Gln Asp Glu Leu Trp Gly Leu His Arg Leu Tyr Gly Cys Leu

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<210> 35
<211> 660
<212> PRT
<213> Homo sapiens
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Met 1	Glu	Ala	Leu	Met 5	Ala	Arg	Gly	Ala	Leu 10	Thr	Gly	Pro	Leu	Arg 15	Ala
Leu	Cys	Leu	Leu	Gly	Cys	Leu	Leu	Ser 25	His	Ala	Ala	Ala	Ala	Pro	Ser
Pro	Ile	Ile	Lys	Phe	Pro	Gly	Asp 40	Val	Ala	Pro	Lys	Thr	Asp	Lys	Glu
Leu	Ala	Val	Gln	Tyr	Leu	Asn	Thr	Phe	Tyr	Gly	Cys 60	Pro	Lys	Glu	Ser
Cys 65	Asn	Leu	Phe	Val	Leu	Lys	Asp	Thr	Leu	Lys 75	Lys	Met	Gln	Lys	Phe 80
Phe	Gly	Leu	Pro	Gln	Thr	Gly	Asp	Leu	Asp 90	Gln	Asn	Thr	Ile	Glu	Thr
Met	Arg	Lys	Pro	Arg	Cys	Gly	Asn	Pro	Asp 105	Val	Ala	Asn	Tyr	Asn	Phe
Phe	Pro	Arg	Lys	Pro	Lys	Trp	Asp 120	Lys	Asn	Gln	Ile	Thr	Tyr	Arg	Ile
Ile	Gly	Tyr	Thr	Pro	Asp	Leu	Asp 135	Pro	Glu	Thr	Val	Asp	Asp	Ala	Phe
Ala 145	Arg	Ala	Phe	Gln	Val	Trp	Ser	Asp	Val	Thr	Pro	Leu	Arg	Phe	Ser 160
Arg	Ile	His	Asp	Gly	Glu	Ala	Asp	Ile	Met 170	Ile	Asn	Phe	Gly	Arg	Trp
Glu	His	Gly	Asp	Gly	Tyr	Pro	Phe	Asp 185	Gly	Lys	Asp	Gly	Leu	Leu	Ala
His	Ala	Phe	Ala	Pro	Gly	Thr	Gly	Val	Gly	Gly	Asp	Ser	His	Phe	Asp
Asp	Asp	Glu	Leu	Trp	Thr	Leu	Gly	Glu	Gly	Gln	Val	Val	Arg	Val	Lys

Tyr 225	Gly	Asn	Ala	Asp	Gly 230	Glu	Tyr	Cys	Lys	Phe 235	Pro	Phe	Leu	Phe	Asn 240
Gly	Lys	Glu	Tyr	Asn 245	Ser	Cys	Thr	Asp	Thr 250	Gly	Arg	Ser	Asp	Gly	Phe 255
Leu	Trp	Cys	Ser	Thr	Thr	Tyr	Asn	Phe 265	Glu	Lys	Asp	Gly	Lys	Tyr	Gly 270
Phe	Cys	Pro	His	Glu	Ala	Leu	Phe 280	Thr	Met	Gly	Gly	Asn 285	Ala	Glu	Gly
Gln	Pro 290	Cys	Lys	Phe	Pro	Phe 295	Arg	Phe	Gln	Gly	Thr 300	Ser	Tyr	Asp	Ser
Cys 305	Thr	Thr	Glu	Gly	Arg 310	Thr	Asp	Gly	Tyr	Arg 315	Trp	Cys	Gly	Thr	Thr 320
Glu	Asp	Tyr	Asp	Arg 325	Asp	Lys	Lys	Tyr	Gly 330	Phe	Cys	Pro	Glu	Thr	Ala 335
Met	Ser	Thr	Val 340	Gly	Gly	Asn	Ser	Glu 345	Gly	Ala	Pro	Cys	Val	Phe	Pro
Phe	Thr	Phe 355	Leu	Gly	Asn	Lys	Tyr 360	Glu	Ser	Cys	Thr 365	Ser	Ala	Gly	Arg
Ser	Asp 370	Gly	Lys	Met	Trp	Cys 375	Ala	Thr	Thr	Ala	Asn 380	Tyr	Asp	Asp	Asp
Arg 385	Lys	Trp	Gly	Phe	Cys 390	Pro	Asp	Gln	Gly	Tyr 395	Ser	Leu	Phe	Leu	Val 400
Ala	Ala	His	Glu	Phe 405	Gly	His	Ala	Met	Gly 410	Leu	Glu	His	Ser	Gln	Asp 415
Pro	Gly	Ala	Leu 420	Met	Ala	Pro	Ile	Tyr 425	Thr	Tyr	Thr	Lys	Asn 430	Phe	Arg
Leu	Ser	Gln 435	Asp	Asp	Ile	Lys	Gly 440	Ile	Gln	Glu	Leu	Tyr 445	Gly	Ala	Ser
Pro	Asp 450	Ile	Asp	Leu	Gly	Thr 455	Gly	Pro	Thr	Pro	Thr 460	Leu	Gly	Pro	Val
Thr 465	Pro	Glu	Ile	Cys 470	Lys	Gln	Asp	Ile	Val	Phe 475	Asp	Gly	Ile	Ala	Gln 480
Ile	Arg	Gly	Glu	Ile 485	Phe	Phe	Phe	Lys	Asp 490	Arg	Phe	Ile	Trp	Arg	Thr 495
Val	Thr	Pro	Arg 500	Asp	Lys	Pro	Met	Gly 505	Pro	Leu	Leu	Val	Ala 510	Thr	Phe
Trp	Pro	Glu 515	Leu	Pro	Glu	Lys	Ile 520	Asp	Ala	Val	Tyr	Glu 525	Ala	Pro	Gln
Glu	Glu 530	Lys	Ala	Val	Phe	Phe 535	Ala	Gly	Asn	Glu	Tyr 540	Trp	Ile	Tyr	Ser
Ala 545	Ser	Thr	Leu	Glu	Arg 550	Gly	Tyr	Pro	Lys	Pro	Leu	Thr	Ser	Leu	Gly 560
Leu	Pro	Pro	Asp 565	Val	Gln	Arg	Val	Asp	Ala 570	Ala	Phe	Asn	Trp	Ser	Lys 575
Asn	Lys	Lys	Thr 580	Tyr	Ile	Phe	Ala	Gly 585	Asp	Lys	Phe	Trp	Arg	Tyr	Asn 590
Glu	Val	Lys 595	Lys	Lys	Met	Asp	Pro 600	Gly	Phe	Pro	Lys	Leu 605	Ile	Ala	Asp
Ala	Trp 610	Asn	Ala	Ile	Pro	Asp 615	Asn	Leu	Asp	Ala	Val 620	Val	Asp	Leu	Gln
Gly 625	Gly	Gly	His	Ser 630	Tyr	Phe	Phe	Lys	Gly	Ala 635	Tyr	Tyr	Leu	Lys	Leu 640
Glu	Asn	Gln	Ser 645	Leu	Lys	Ser	Val	Lys	Phe 650	Gly	Ser	Ile	Lys	Ser	Asp 655

Trp Leu Gly Cys
660

<210> 36

<211> 707

<212> PRT

<213> Homo sapiens

<400> 36

Met	Ser	Leu	Trp	Gln	Pro	Leu	Val	Leu	Val	Leu	Leu	Val	Leu	Gly	Cys
1				5					10					15	
Cys	Phe	Ala	Ala	Pro	Arg	Gln	Arg	Gln	Ser	Thr	Leu	Val	Leu	Phe	Pro
			20					25					30		
Gly	Asp	Leu	Arg	Thr	Asn	Leu	Thr	Asp	Arg	Gln	Leu	Ala	Glu	Glu	Tyr
		35					40					45			
Leu	Tyr	Arg	Tyr	Gly	Tyr	Thr	Arg	Val	Ala	Glu	Met	Arg	Gly	Glu	Ser
	50					55					60				
Lys	Ser	Leu	Gly	Pro	Ala	Leu	Leu	Leu	Gln	Lys	Gln	Leu	Ser	Leu	
65					70				75					80	
Pro	Glu	Thr	Gly	Glu	Leu	Asp	Ser	Ala	Thr	Leu	Lys	Ala	Met	Arg	Thr
				85					90					95	
Pro	Arg	Cys	Gly	Val	Pro	Asp	Leu	Gly	Arg	Phe	Gln	Thr	Phe	Glu	Gly
			100					105					110		
Asp	Leu	Lys	Trp	His	His	His	Asn	Ile	Thr	Tyr	Trp	Ile	Gln	Asn	Tyr
	115						120					125			
Ser	Glu	Asp	Leu	Pro	Arg	Ala	Val	Ile	Asp	Asp	Ala	Phe	Ala	Arg	Ala
	130					135					140				
Phe	Ala	Leu	Trp	Ser	Ala	Val	Thr	Pro	Leu	Thr	Phe	Thr	Arg	Val	Tyr
145					150					155					160
Ser	Arg	Asp	Ala	Asp	Ile	Val	Ile	Gln	Phe	Gly	Val	Ala	Glu	His	Gly
				165					170					175	
Asp	Gly	Tyr	Pro	Phe	Asp	Gly	Lys	Asp	Gly	Leu	Leu	Ala	His	Ala	Phe
		180						185					190		
Pro	Pro	Gly	Pro	Gly	Ile	Gln	Gly	Asp	Ala	His	Phe	Asp	Asp	Asp	Glu
		195					200					205			
Leu	Trp	Ser	Leu	Gly	Lys	Gly	Val	Val	Val	Pro	Thr	Arg	Phe	Gly	Asn
	210					215						220			
Ala	Asp	Gly	Ala	Ala	Cys	His	Phe	Pro	Phe	Ile	Phe	Glu	Gly	Arg	Ser
225					230					235					240
Tyr	Ser	Ala	Cys	Thr	Thr	Asp	Gly	Arg	Ser	Asp	Gly	Leu	Pro	Trp	Cys
				245					250					255	
Ser	Thr	Thr	Ala	Asn	Tyr	Asp	Thr	Asp	Asp	Arg	Phe	Gly	Phe	Cys	Pro
		260						265					270		
Ser	Glu	Arg	Leu	Tyr	Thr	Arg	Asp	Gly	Asn	Ala	Asp	Gly	Lys	Pro	Cys
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Gln	Phe	Pro	Phe	Ile	Phe	Gln	Gly	Gln	Ser	Tyr	Ser	Ala	Cys	Thr	Thr
	290					295						300			
Asp	Gly	Arg	Ser	Asp	Gly	Tyr	Arg	Trp	Cys	Ala	Thr	Thr	Ala	Asn	Tyr
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Asp	Arg	Asp	Lys	Leu	Phe	Gly	Phe	Cys	Pro	Thr	Arg	Ala	Asp	Ser	Thr
			325						330					335	
Val	Met	Gly	Gly	Asn	Ser	Ala	Gly	Glu	Leu	Cys	Val	Phe	Pro	Phe	Thr
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Phe	Leu	Gly	Lys	Glu	Tyr	Ser	Thr	Cys	Thr	Ser	Glu	Gly	Arg	Gly	Asp

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	370					375				380					
Trp	Gly	Phe	Cys	Pro	Asp	Gln	Gly	Tyr	Ser	Leu	Phe	Leu	Val	Ala	Ala
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His	Glu	Phe	Gly	His	Ala	Leu	Gly	Leu	Asp	His	Ser	Ser	Val	Pro	Glu
				405					410					415	
Ala	Leu	Met	Tyr	Pro	Met	Tyr	Arg	Phe	Thr	Glu	Gly	Pro	Pro	Leu	His
		420						425					430		
Lys	Asp	Asp	Val	Asn	Gly	Ile	Arg	His	Leu	Tyr	Gly	Pro	Arg	Pro	Glu
	435						440					445			
Pro	Glu	Pro	Arg	Pro	Pro	Thr	Thr	Thr	Thr	Pro	Gln	Pro	Thr	Ala	Pro
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Pro	Thr	Ala	Gly	Pro	Thr	Gly	Pro	Pro	Ser	Ala	Gly	Pro	Thr	Gly	Pro
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Pro	Thr	Ala	Gly	Pro	Ser	Thr	Ala	Thr	Thr	Val	Pro	Leu	Ser	Pro	Val
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Asp	Asp	Ala	Cys	Asn	Val	Asn	Ile	Phe	Asp	Ala	Ile	Ala	Glu	Ile	Gly
	515					520					525				
Asn	Gln	Leu	Tyr	Leu	Phe	Lys	Asp	Gly	Lys	Tyr	Trp	Arg	Phe	Ser	Glu
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Gly	Arg	Gly	Ser	Arg	Pro	Gln	Gly	Pro	Phe	Leu	Ile	Ala	Asp	Lys	Trp
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Pro	Ala	Leu	Pro	Arg	Lys	Leu	Asp	Ser	Val	Phe	Glu	Glu	Pro	Leu	Ser
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Lys	Lys	Leu	Phe	Phe	Ser	Gly	Arg	Gln	Val	Trp	Val	Tyr	Thr	Gly	
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Leu	Leu	Phe	Ser	Gly	Arg	Arg	Leu	Trp	Arg	Phe	Asp	Val	Lys	Ala	Gln
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Met	Val	Asp	Pro	Arg	Ser	Ala	Ser	Glu	Val	Asp	Arg	Met	Phe	Pro	Gly
				645					650					655	
Val	Pro	Leu	Asp	Thr	His	Asp	Val	Phe	Gln	Tyr	Arg	Glu	Lys	Ala	Tyr
			660					665					670		
Phe	Cys	Gln	Asp	Arg	Phe	Tyr	Trp	Arg	Val	Ser	Ser	Arg	Ser	Glu	Leu
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<213> Homo sapiens

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<221> VARIANT

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<223> Xaa = Glycine or Alanine

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